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IS 2601 (1987): Brass anodes for electroplating [MTD 24: Corrosion Protection]

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IS : 2601 - 1987

(Reaffirmed 2006)

Indian Standard

SPECIFICATION FOR BRASS ANODES FOR ELECTROPLATING

(First Revision)

1. Scope

1.1 This standard covers the requirements for brass anodes used in electroplating baths.

Brass anodes covered in this standard are intended for use in brass-plating baths from which corrosion resistant coatings are deposited into metal surfaces for protective or decorative purposes, or to produce a building surface for other deposits applied to metal surfaces.

2. Shape and Size — Unless otherwise specified by the purchaser, brass anodes shall be supplied in either cast, forged, rolled or extruded form, and shall be of suitable shape (either plate, spherical, round or oval). Dimensions of the anode shall be as agreed to between the manufacturer and the purchaser.

2.1 One end of the anode shall have a tapped hole in the centre of the round or oval shaped anodes to provide for vertical suspension. In the cast or plates, two holes shall be provided for vertical suspension. The dimensions of the tapped hole or the hole on the plates shall be agreed to between the purchaser and the supplier.

3. Freedom from Defects — Brass anodes when examined visually, shall be clean, substantially free from cracks, casting laps, warps, inclusions, porosity, ragged edges, surface films such as rolling skin, and other defects which may adversely affect uniform dissolutions in service.

4. Chemical Composition — Brass anodes when analysed in accordance with IS : 3685-1966 'Methods of chemical analysis of brasses' shall conform to one of the compositions given in Table 1.

TABLE 1 CHEMICAL COMPOSITION

Type	Percent					
	Copper	Lead, *Max*	Iron, *Max*	Tin, *Max*	Zinc	Other Impurities* *Max*
60/40	58-62	0·02	0·03	0·03	Remainder	0·15
70/30	68-72	0·02	0·03	0·03	Remainder	0·15

*Other impurities are arsenic, antimony, bismuth, nickel and aluminium.

5. Sampling — For acceptance of lots, a sampling procedure shall be adopted as agreed to between the purchaser and the supplier. A recommended procedure is given in Appendix A.

6. Packing — Unless otherwise specified, anodes shall be separated according to their sizes and shall be packed in such a manner as to ensure safe transportation to the point of delivery. As far as practicable, one size anodes shall be packed in a single container.

7. Marking — The anodes shall be marked with the name, initials or trade-mark of the manufacturer. In case of anodes with hooks, the marks shall be placed near the hooks.

7.1 *Standard Marking* — Details available with the Bureau of Indian Standards.

Metallic and Non-Metallic Finishes Sectional Committee, SMDC 23 [Ref : Doc : SMDC 23 (3098)]

Adopted 20 November 1987

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

APPENDIX A

(*Clause* 5)

SAMPLING PROCEDURE FOR BRASS ANODES FOR ELECTROPLATING

A-1. Lot — In any consignment, all the brass anodes of the same type and manufactured under similar conditions of production shall be grouped together to constitute a lot.

A-2. Scale of Sampling — The number of anodes to be selected at random from the lot shall depend upon its size and shall be as given below:

No. of Anodes in the Lot	*No. of Anodes to be Selected*
Up to 25	2
26 to 50	3
51 ,, 100	4
101 ,, 200	5
201 ,, 300	7
301 and above	10

A-3. Drillings

A-3.1 From each of the anodes selected in **A-2**, drillings shall be obtained from not fewer than three widely-spaced positions. These drillings shall be obtained as specified in **A-3.2** and drillings from each anodes shall be tested separately.

A-3 2 Select a sharpened twist drill (6 to 10 mm drill should be suitable). Clean the drill thoroughly in light petroleum and wipe clean with muslin. Free the anode from any loose impurity by means of a steel wire brush. Bore the holes to approximately 10 percent of the thickness of the anode and discard the drillings therefrom. Place the anode on a clean tinned iron sheet and drill a further 80 percent of the thickness. Collect the drillings thus obtained and transfer to a clean container. If a larger quantity of drillings is required, more holes may be drilled as described above. Before analysing, the drillings should be washed in light petroleum. Pass a magnet over the drillings spread out on a piece of paper to remove any free iron or steel particles.

A-4. Number of Tests — The drillings from each anode selected in accordance with **A-2** shall be separately tested for requirements mentioned in **4**.

A-5. Criterion for Conformity — From the test results, the average and the range shall be calculated and for each of the characteristic, the lot shall be considered as conforming to the requirements of this specification if the conditions mentioned below are satisfied for each characteristic:

a) If the maximum limit is specified, then (average + 0·6 range) shall be less than or equal to the limit specified.

b) If the minimum limit is specified, then (average — 0·6 range) shall be greater than or equal to the limit specified.

EXPLANATORY NOTE

This standard has been formulated with a view to laying down the requirements for brass anodes used by electroplaters in this country. This standard was published in 1964. Since impurities in brass anodes will have deleterious effect on the brass deposit, limit of the impurities have been revised in this revision.

In the preparation of this standard, due consideration has been paid to the manufacturing and trade practices followed in the country in this field. This standard is intended chiefly to cover the technical provisions relating to brass anodes for electroplating, and it does not include all the necessary provisions of a contract.

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